

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Wireless E911 Location Accuracy)	PS Docket No. 07-114
Requirements)	

To: The Public Safety and Homeland Security Bureau

COMMENTS OF GCI COMMUNICATION CORP.

GCI Communication Corp. (“GCI”) hereby submits these comments in response to the request by the Public Safety and Homeland Security Bureau (“Bureau”) to refresh the record in the above-referenced docket addressing location accuracy standards for wireless E911 calls.¹ In considering revised location accuracy rules, GCI urges the Commission and the Bureau to take into account the technological and economic realities of providing service to low-density, rural locations, especially in Alaska. As a result, rigid adherence to metrics insensitive to the service characteristics for such areas could have the perverse result of stifling deployments to areas most in need of wireless infrastructure investment. Nothing has changed since the last comment cycle to change the realities of serving such areas. Rather, operational realities require both a glidepath as systems employing network-based solutions incorporate handset-based solution technologies, and, if measurement benchmarks were imposed, the ability to exclude immeasurable areas from these calculations. GCI’s continuing advancements in Alaska to

¹ *Public Notice, Public Safety and Homeland Security Bureau Seeks to Refresh the Record Regarding Service Rules for Wireless Enhanced 911 Phase II Location Accuracy and Reliability*, DA 09-2397, PS Docket No. 07-114 (rel. Nov. 6, 2009).

introduce first-time wireless service throughout the state² only underscore the critical need and pent-up demand for services, and that location accuracy rules should not disincent or discourage carriers investing to meet these needs. These circumstances are shared by other Tier III carriers and must be taken into account to develop a defensible, meaningful, and sustainable E911 location accuracy regime.

The Challenge of Serving Alaska

Alaska is organized into 16 boroughs (not counties) that are comprised of vast stretches of sparsely populated areas, difficult terrain, line-of-sight barriers, and public property ownership restrictions. A borough is a governmental unit into which some, but not all, of the communities in the state are organized. While similar in function to a county, an Alaskan borough often contains widely dispersed, noncontiguous communities. Many boroughs are dotted with small, non-contiguous communities, often separated by hundreds of miles of unpopulated land, and villages within those boroughs may have less than a few hundred inhabitants and are reachable only by boat, small aircraft, sled or snow machine. Communications between these communities are often carried via satellite link, such that mobile traffic between communities ride the satellite network and are not transmitted directly via cell sites. Because of this unique network structure, there is little ability to triangulate among cell sites in Alaska outside of core areas.

Rarely does efficient, technologically proficient, and cost effective network design to serve Alaska villages call for the type of cell site deployment necessary for network-based Phase II E911 service. In boroughs where three or more sites are deployed, rarely would population, geographic, and topological requirements result in placement that would yield accurate location information. This is because most population centers are sufficiently served via one (or in some cases two) cell sites, and the distances between population centers in the same borough are so

² See GCI Wireless Deployment Map, November 2009 (attached).

great that multiple site deployments within a single borough will not achieve triangulation. Contained within still other boroughs, there are communities and smaller parcels where similar geographic features and siting challenges preclude handset viewability from a sufficient number of cell sites in the area, making refined accuracy measurements difficult, if not impossible, to secure. In many of these locations, where the presence of PSAPs in communities and their ability to process data vary, GCI is providing wireless service for the first time (*see* attached article).

Even for those Alaskan communities where population densities and terrain call for three or more sites, GCI faces the same limitations as other Tier III providers utilizing GSM technology. It remains the case that the AT&T proposal (addressed below) would present significant challenges to most GSM providers, which would require considerable time to implement additional network solutions for location accuracy once they come available. These network solutions might involve indentifying new solutions to provide sufficiently strong triangulation, especially in fringe areas of coverage, deploying 3G networks, and subsequently improving access to A-GPS capable handsets and building penetration among the customer base.

A Reasonable Regulatory Regime Cannot Ignore the Realities of Serving Low-Population, Topographically Challenging Areas

The proposal previously issued for comment, set forth by AT&T, the Association of Public-Safety Communications Officials, International (“APCO”) and the National Emergency Number Association (“NENA”),³ did not take into account the technological and economic realities of providing service to low-density, topographically challenged service areas, like

³ See Letter from Brian Fontes, CEO, NENA; Robert Gurss, Director, Legal & Gov’t Affairs, APCO; and Robert W. Quinn, Jr., SVP Federal Regulatory, AT&T, to the Hon. Kevin Martin, Chairman, Federal Communications Commission (filed Aug. 25, 2008); *Ex Parte*, AT&T Services, Inc., PS Docket No. 07-114, CC Docket No. 94-102 at 1 (filed Sept. 5, 2008) (“AT&T September 2008 Ex-Parte”).

Alaska. Strict adherence to those proposed metrics would have the perverse result of stifling deployments to areas most in need of wireless infrastructure investment. As AT&T acknowledged in its September 5, 2008 *ex parte*, variations in cell site density, the impact of local topography on RF propagation, and network design each alone or together preclude carriers that have deployed network-based technologies from meeting E911 accuracy requirements at the county level.⁴ Where such circumstances exist, AT&T suggested that a carrier meet the interim benchmarks through deploying a hybrid approach that utilizes A-GPS handsets.⁵ While deploying a hybrid solution appears to be the direction in which GSM providers are heading, there is no uniform path that can be reasonably imposed, given that the record has demonstrated that providers are not similarly situated with respect to their ability to deploy A-GPS technology and access to affordable A-GPS handsets.

AT&T previously acknowledged that the measurements and benchmarks it proposed are “aggressive” and cannot be met relying solely on a network-based E911 solution.⁶ The fact is that the AT&T benchmarks for GSM providers clearly continue only to be within the reach of AT&T.⁷ AT&T launched its 3G services in as early as 2004 in some markets, and having done so ahead of the rest of the GSM carriers, it was able immediately to begin to shift subscribers to A-GPS-capable handsets.⁸ This is not where any other carrier finds itself, and to create a generally-applicable rule based on the experience of one, uniquely-positioned carrier would undoubtedly be arbitrary and capricious.

⁴ *Id.* at 1.

⁵ *Id.* at 2.

⁶ Comments of AT&T, Inc. at 3.

⁷ See RCA/T-Mobile Comments at 11 (“There is no basis for concluding that GSM carriers, other than AT&T, can meet AT&T’s benchmarks.”).

⁸ *Id.* at 14.

As GSM carriers migrate from a network-based approach to one that incorporates a handset-based A-GPS solution, accommodating a hybrid approach toward measuring location accuracy may be reasonable. However, none of the technical work has been done to be able to develop a defensible methodology, benchmarks, or implementation timeframes. For this reason, the Commission's rulemaking process should include a methodical assessment of any proposal under consideration, to ensure that it passes both technical and economic muster. The paths taken thus far demonstrate that this is the only way for a workable, meaningful location accuracy regime to be established.

Revised Location Accuracy Standards Must Accommodate Service Realities

Any revised rules that set measurement standards or benchmarks applicable to network-based or hybrid solutions – which may not be the appropriate approach given all the potential variations among providers and service area characteristic – should at the very least exclude any geographic area designated for measurement (like county or borough) where fewer than three cell sites are deployed and any community, or part of a community, where at least three cell sites are not viewable to a handset. Specifically for Alaska, an even more exacting standard appears to be necessary. For example, GCI had previously proposed that carriers serving the state be required to measure compliance with benchmarks only for those areas within a four-mile radius circle that include at least five cell sites, where the test location within such circle has a usable signal level greater than -104 dBm to all cell sites within the circle.⁹ This approach, which itself should be subject to the objective technical and economic review discussed above, would focus compliance efforts on core areas that are characterized by more dense populations and higher call frequencies.

⁹ *Ex Parte*, GCI Communication Corp., PS Docket No. 07-114 at 2 (filed Dec. 10, 2008).

Moreover, the five-cell site, four-mile radius requirement takes into account the reality that, especially with Alaska's sparse and geographically dispersed populations, more than three cell sites will likely be necessary to provide sufficient accuracy to meet more granular requirements for Phase II service. A usable signal strength standard is a necessary component to exclude areas that have significant tree, terrain, or other obstruction, issues that are recognized limitations to measuring Phase II service. Even with this more precise demarcation of measurable areas, though, a waiver process might still be necessary to address unique situations. For this reason, GCI emphasizes that it would be fruitful to investigate alternative means of incorporating A-GPS technology into current network-based solutions, further underscoring the need to undertake an economic and technical assessment of any approach before imposing a new obligations.

Conclusion

Based on the foregoing, GCI urges the Commission to consider full the breadth of service and carrier differences as it considers how to revise E911 location accuracy requirements. Alaska's unique service characteristics underscore that a one-size-fits-all-regime actually will not fit most and will do nothing to further, and may even retard, efforts to extend deployment where it is most needed. While targeted adjustments may address the needs of some areas, ultimately a

full technical and economic assessment is needed to support any new sea change in the location accuracy requirements.

Respectfully submitted,

GCI COMMUNICATION CORP.

/s/

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Dated: November 20, 2009

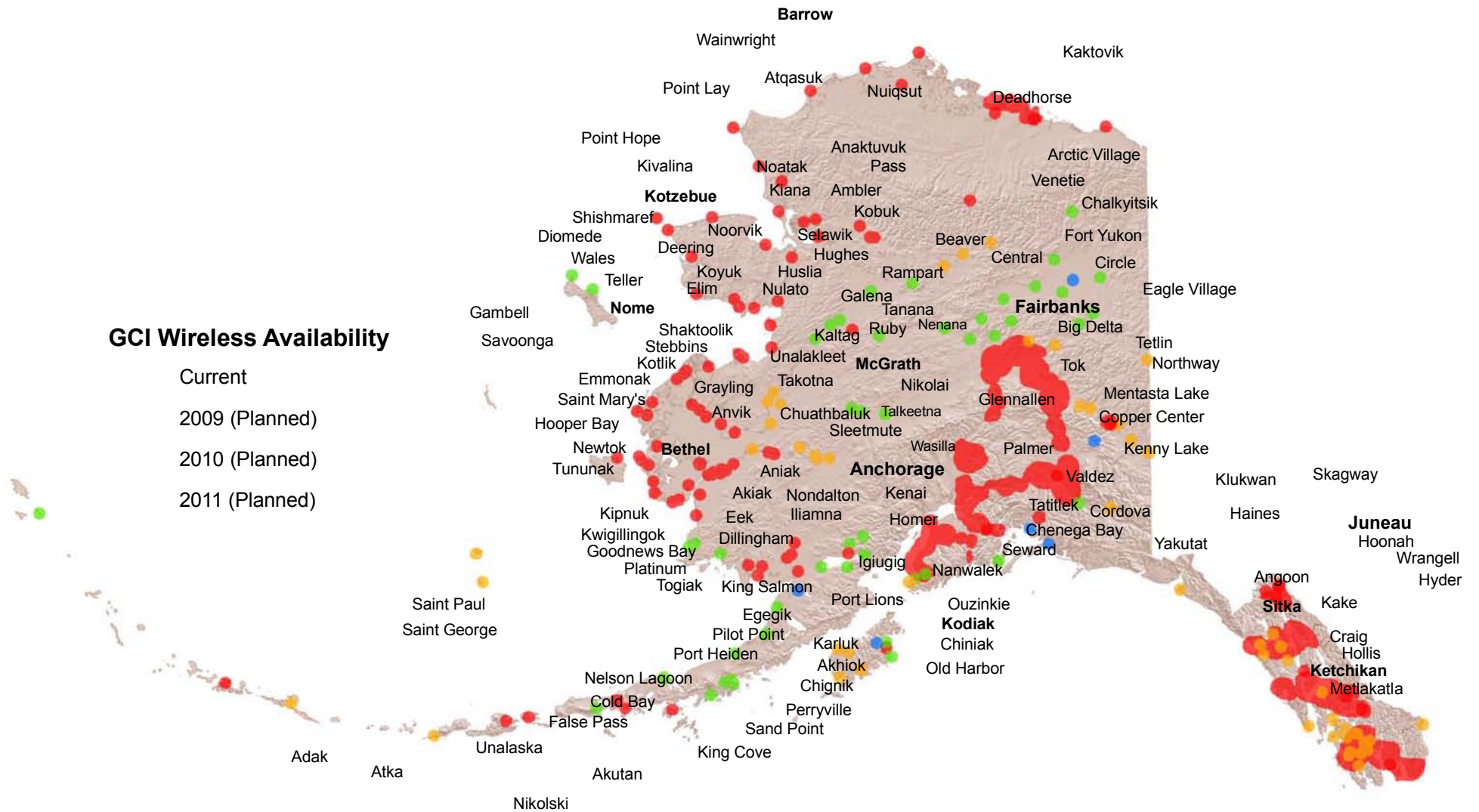
GCI Wireless Availability

Current

2009 (Planned)

2010 (Planned)

2011 (Planned)



Cell phones the latest rage in Bush Alaska

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December 05, 2008 at 8:34AM AKST

The cellular age has finally reached village Alaska in a big way.

As a result, villagers are signing up to get cell phones in droves, praising benefits they say will range from quicker backcountry rescues to staying in touch with large families sprawling the state.

GCI, which bills itself as Alaska's largest telecommunications company, launched the village cellular service in dozens of communities in recent weeks.

For now, the company is blanketing two regions in Western Alaska – the Seward Peninsula and the Yukon-Kuskokwim Delta. But officials promise to have cell phones chirping in all the state's villages by the end of 2010.

The cell phone became mainstream technology in most of America more than a decade ago, but in rural Alaska the service has generally been restricted to hub cities such as Bethel. It also existed in a few village clusters where pioneering companies sometimes provided limited or costly plans.

The response to GCI's new village service has been "pretty crazy," said Sara Huff, the wireless operations manager in Anchorage.

The company turned on cellular service in 13 communities in the Nome region near Norton Sound in mid-October. There, officials expected to have 225 new customers by the end of the year.

They had 800 by early December.

The cell phones are also a big hit in 36 villages near the lower Yukon and Kuskokwim rivers, said Toni Crosby, head of GCI's office in Bethel.

The technology arrived in that region in early November. The company expected about 300 new customers within two months, Crosby said. Instead, 1,000 people signed up in half the time.

GCI officials traveling to those villages to explain various plans have been mobbed with inquiries, especially how to get a phone, she said. The questions start when the officials land at the village airstrip and don't let up until the GCI workers leave the village several hours later.

“People are loving it,” she said.

Every village

As for GCI’s plans in the rest of the state, the company intends to add 59 villages next year, including around the hub communities of Kotzebue, Barrow and Dillingham. They also plan next year to expand cell service in the Copper Valley region and to villages in the Aleutian and Pribilof islands that don’t yet have it, said Dan Boyette, vice president of rural consumer service.

To provide the service, GCI first built up its telecommunications infrastructure across the state, including through acquisitions of some rural companies, he said.

Assisting with the effort is a longtime federal subsidy provided by the Universal Service Fund, a fee collected from long-distance calls that subsidizes telecommunications service in rural and poor communities.

“Federal supports helps, but it was just time for us to do this,” Boyette said. “The wireless business is the way the world is going.”

Villages have wanted cell phone coverage like the rest of America has had for years, he said.

“It’s finally time for rural Alaska to be included in that,” he said.

ACS, a rival of GCI that calls itself Alaska’s leading provider of wireless and broadband services, provides wireless in Southeast and in areas generally associated with the state’s road system, including in Anchorage and Fairbanks, according to its Web site. It also provides wireless in the hub communities of Nome, Barrow and Kotzebue, as well as at a few spots associated with the oil industry out of Prudhoe Bay.

An ACS official, asked whether the company planned to expand cell service in villages, said this:

“Our basic message is we already cover over 80 percent of the Alaska population with our wireless coverage, including along Alaska’s major communication corridors, so we’re really happy about that,” said Paula Dobbyn, director of corporate communications.

She said a large part of the company’s focus in the last year has been installing an undersea fiber optics cable from Anchorage to the Lower 48. The cable will boost bandwidth in Alaska and allow people to digitally move large amounts of protected information. For example, an oil company in Alaska might use it to send seismic exploration data to Houston, Tex.

Fish camp is calling

As for GCI's efforts in the Bethel region, most new customers have bought the plan that provides unlimited long-distance calls in Alaska, free calls to other GCI cell phones around the country and unlimited texting, all for \$54.99 a month, said Crosby.

It's the same price offered to Anchorage residents. Rural parents want it to give the phone to their children, who have left the village to attend college or boarding schools, she said.

"The parents say the kids have no excuse not to call," Crosby said.

The cell phones could help people with subsistence activities.

One GCI employee recently called the Bethel office from fish camp, Crosby said. And a different GCI employee returning from a moose hunt called someone in Bethel on his cell phone as he approached town — he needed a truck to haul the moose meat into town, she said.

GCI's cell phone signals, usually sent from 60-foot towers in each village, are not meant to work between villages, Boyette said.

But coverage overlaps in villages that are close together or in some places where trees and mountains don't obstruct the line-of-sight radio signal. That "residual coverage" also exists in a few areas where cell phone towers exceed 60 feet, Boyette said.

One place with overlapping signals is between the communities of Napaskiak, Napakiak, Oscarville and Bethel, Boyette said.

In that area, like many parts of rural Alaska, local rescue teams are often called upon to save lives, said Ben Beaver, of Napakiak. The cell phone could allow stranded travelers on the tundra the chance to get quick assistance with a phone call.

"If the snowmachine breaks down or people are lost, they could call help," he said.

The public safety officer in the village of 375, Beaver spoke by one of the new cell phones, bought by the local governing body to help him with his job.

The cell phone will be especially useful for village public safety officers, he said. They'll be reachable wherever they go, whether in the Lower 48 or when they respond to emergencies in neighboring villages.

Mark Olick, the maintenance man at the Tuntutuliak school, said he's one of about 30 people in the village of 400 who have bought the new cell phone.

Speaking on that new phone to an Anchorage reporter — the connection was garbled early in the conversation but remained clear for several minutes — Olick called the technology "a good thing" for rural Alaska.

The signal in his village is strong, he said. He recently traveled seven miles outside the village and the phone still worked.

Olick got one for himself and his wife. He bought the unlimited-in-Alaska plan so he could call family in Bethel and Anchorage without worrying about exceeding minutes.

But he's guarding the new phone number so he doesn't get calls at odd hours. People already keep his land-line phone ringing, asking whether he can open the school gymnasium so kids can play.

"They keep calling nonstop," he said.

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